ICT PROJECT MANAGEMENT

LECTURE 10:
PROJECT MONITORING & CONTROL

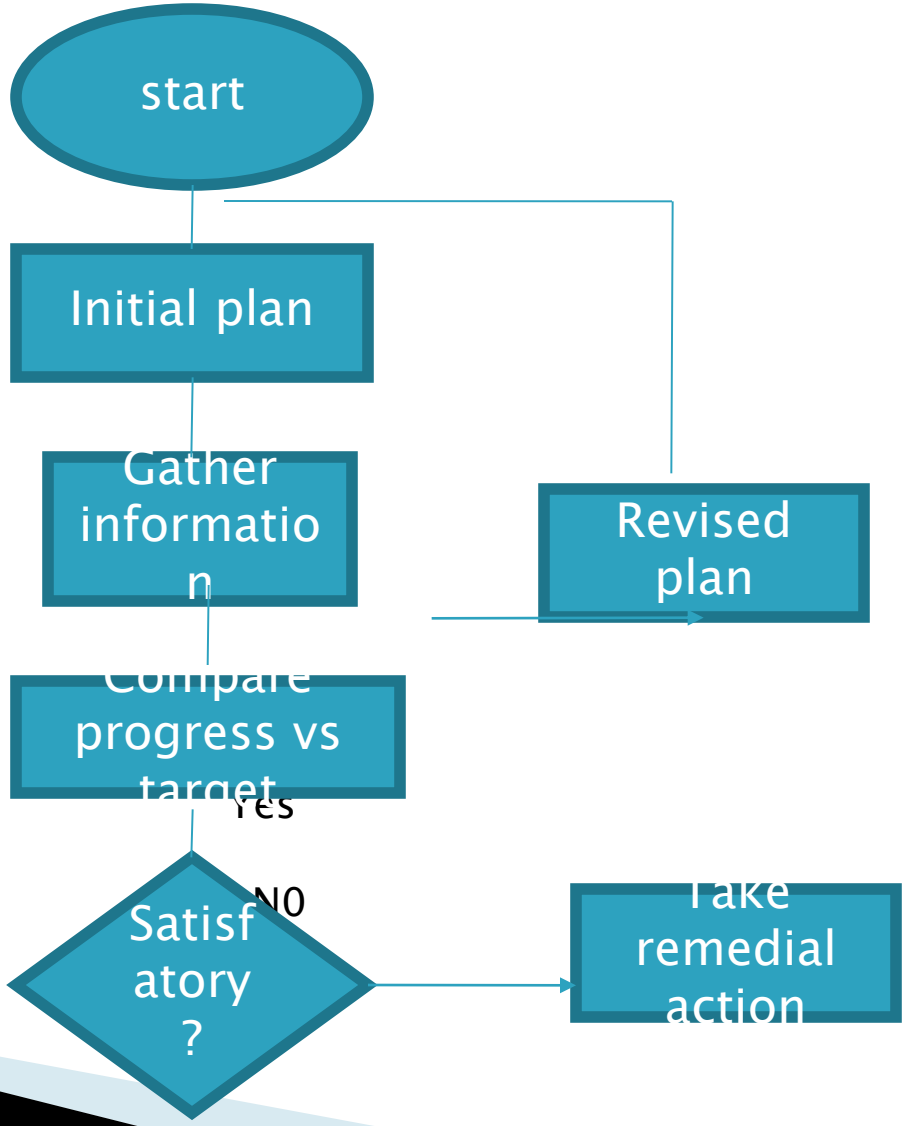
Objectives

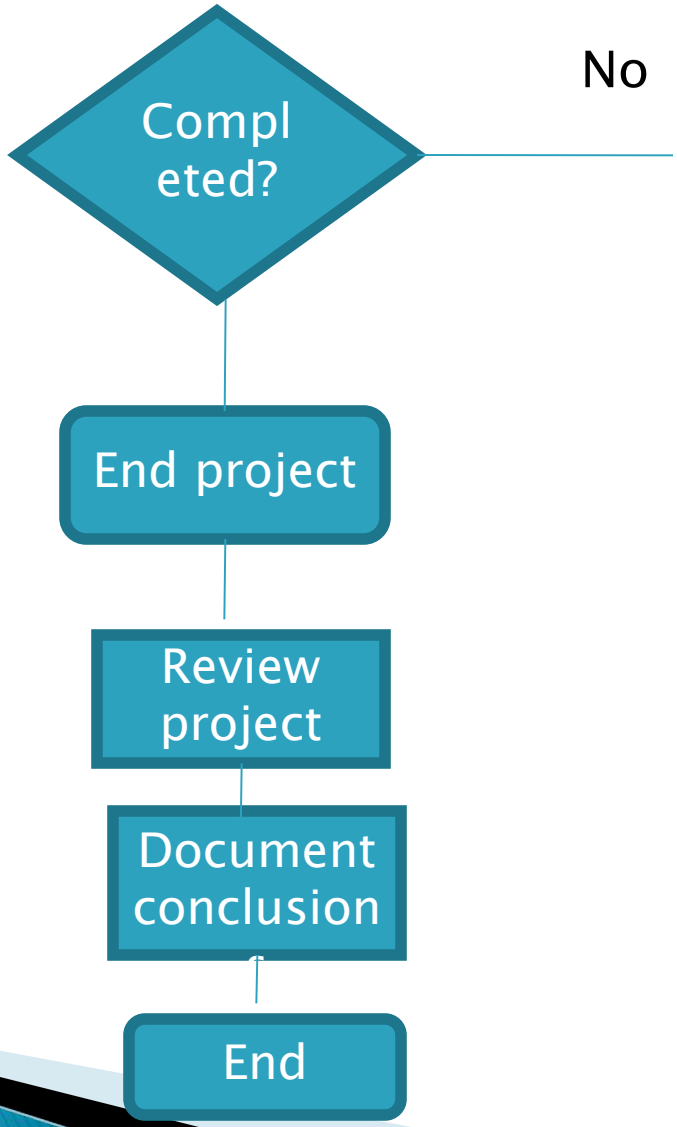
- Monitor progress of projects
- Assess the risk of slipage
- Revise targets to correct drift
- Control changes to projects' requirements

Introduction

- Project monitoring entails finding out what is happening and comparing with current targets and if there is mismatch between the planned outcomes and actual ones then replanning is required
- This is done in a respective manner as depicted in the diagram below.
- Project activities must have clearly defined and visible completion points.

Project control cycle




Compl
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No
End project
Review
project
Document
conclusion
End

Common causes of deviation

- Delays in meeting target dates
- Shortfalls in quality
- Inadequate functionality
- Costs going over target

Responsibility

- Overal responsibility – Project steering committee/project board
- Day-to-day – Project manager

Reporting structure

- Oral formal regular
- Oral formal ad hoc
- Written formal regular
- Written formal ad hoc
- Oral informal ad hoc

Types of reporting

- Partial completion reporting
  - E.g time sheets sued to charge staff time to individual jobs
- Risk reporting e.g traffic light method
  - Identify key (first) elements for assessment
  - Break the key elements into second level
  - Assess the second level elements on the scale green for on target, amber for not on target but recoverable and red for not on target but recoverable with difficulty
  - Review all secong level assessments to arrive at 1st level
  - Review all first level and second level assessments to produce final results

Visualizing progress

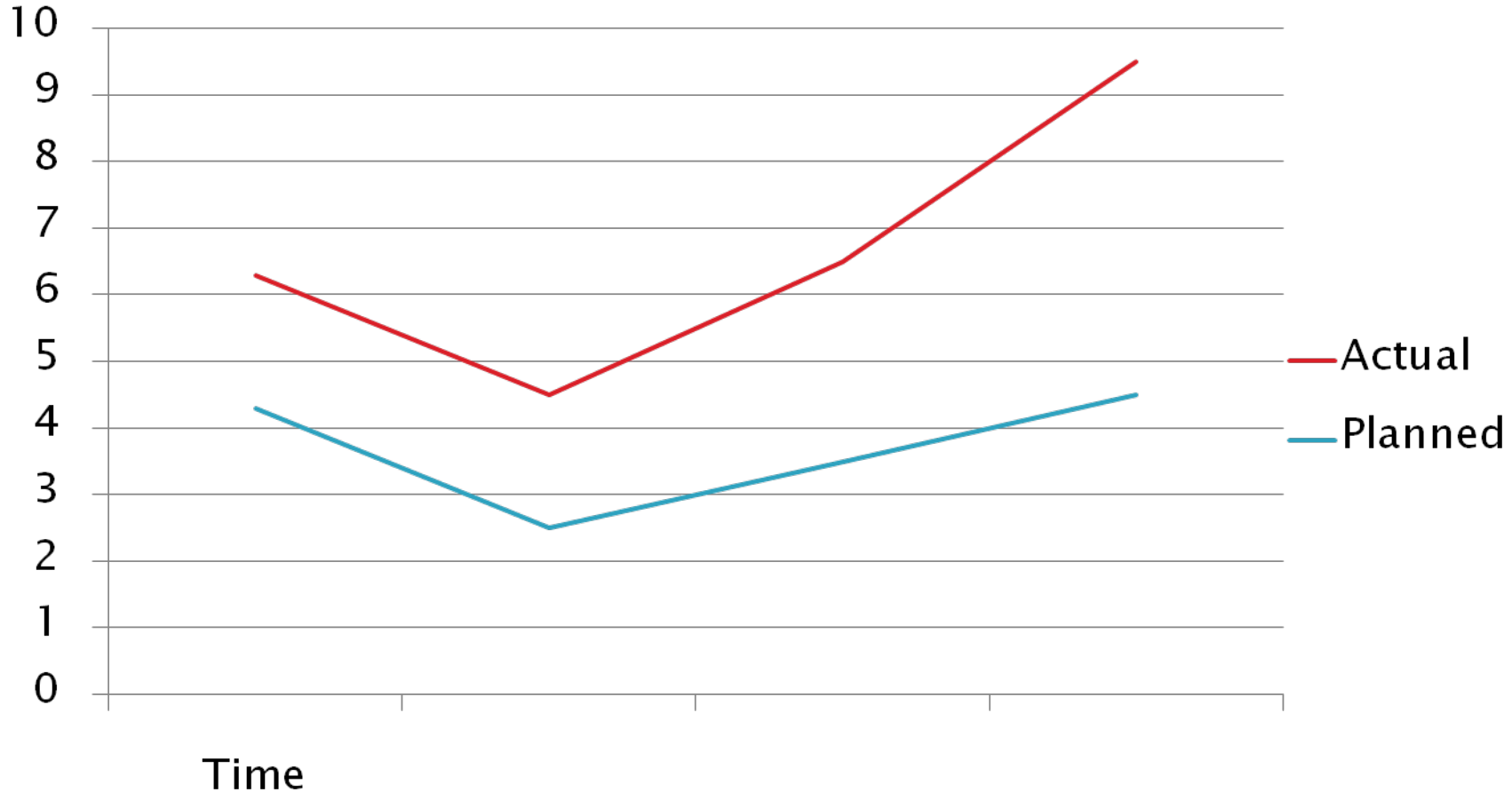
- Gantt chart – shows scheduled activity dates and durations in a bar chart
- Slip chart – shows activities that are not progressing on schedule
- Ball wall chart – uses circles to indicate start and completion points for activities.
- Timeline – records and displays the way in which targets have changed throughout the project duration (planned time on horizontal axis and actual time on vertical axis

Cost monitoring

- Important as a way of project control but also provides indication of the effort that has gone into the project

- Cumulative Expenditure Charts – represents cumm. Cost vs time in the axes
  - Shows project timeliness
  - Shows planned expenditure vs actual exp. grahically

Cumulative expenditure chart



Revised cumm. chart

- Includes
  - revised total cost
  - Revised completion time
- Involves adding projected future costs calculated by adding the estimated cots of uncompleted work to the costs already incurred

Earned Value Analysis

- Refinement of cost monitoring techniques discussed earlier
- Based on assigning value to each task/work package depending on the original expenditure forecasts
- Assigned value known as Planned Value (PV)

Or Budgeted Cost of Work Scheduled (BCWS)

- Non started task is assigned Zero value and when completed it is credited with value of the task

Earned Value Analysis Cont'

- The total value credited to a project at any point is is known as the Earned Value (EV) or
- Budgeted Cost of Work Performed (BCWP) which can be represented as a percentage of the PV.

Earned Value Analysis Cont'

- Where tasks have been started but not yet complete, some method of assigning EV are used. These include;
- 0/100 Technique –A task is assigned a value of Zero until such time that it is completed when it is given a value of of 100% of the budgeted value.
- 50/50 Technique – A task is assigned a value of 50% of its value as soon as it is started and then given a value of 100% once completed.

Earned Value Analysis Cont'

- The milestone technique – a task is given a value based on the achievement of milestones that have been assigned values as part of the original budget plan.

Critique the three techniques?

The Baseline Budget

- Based on project plan and shows the forecast growth in earned value through time
- EV can be measured monetaririly but can be measured in person-hours in case of s/w projects

Example: baseline budget calculation

Task	Budgeted workdays	Scheduled completion /Elapsed days	Cumulative workdays	% cumulative EV
Specify overall system	34	34	34	14.35
Specify Module B	15	49	64	27.00
Specify Module D	15	49		
Specify Module A	20	54	84	35.44
Check specs	2	56	86	36.28
Design module D	4	60	90	37.97
Design Module A	7	63	97	40.93

EV-based performance statistics

- Scheduled variance = EV – PV
  - Indicates degree to which the value of completed work differs from the planned work
- Cost Variance = EV – AC
  - Indicates difference between budgeted cost and actual cost
- Performance ratios
  - Cost performance Index CPI = EV/AC
  - Scheduled Performance Index SPI = EV/PV

Getting project back on trac

- Shorten the critical path
- Reconsider the precedence requirements

Change control

- Necessary due to interrelationship between processes/documents
- Procedure
  - Change request by user
  - Request considered and approved/disapproved
  - Analysis of the cost to determine cost implications
  - Report back to user management
  - Copies taken to master products to be modified
  - Copies modified
  - Copies released for user acceptance testing
  - Authorise operational release

Summary

- No need to plan unless execution of the plan is monitored
- Subdivide activities to make them easy to control
- Measure progress through delivery of products
- Charts suitable for showing progress
- Monitor both costs and time
- It is possible to bring projects back on track after delays by shortening critical path activities